

# The Firewood - Forest Health Connection



**USDA Forest Service, Forest Health Protection**  
**St. Paul Field Office**

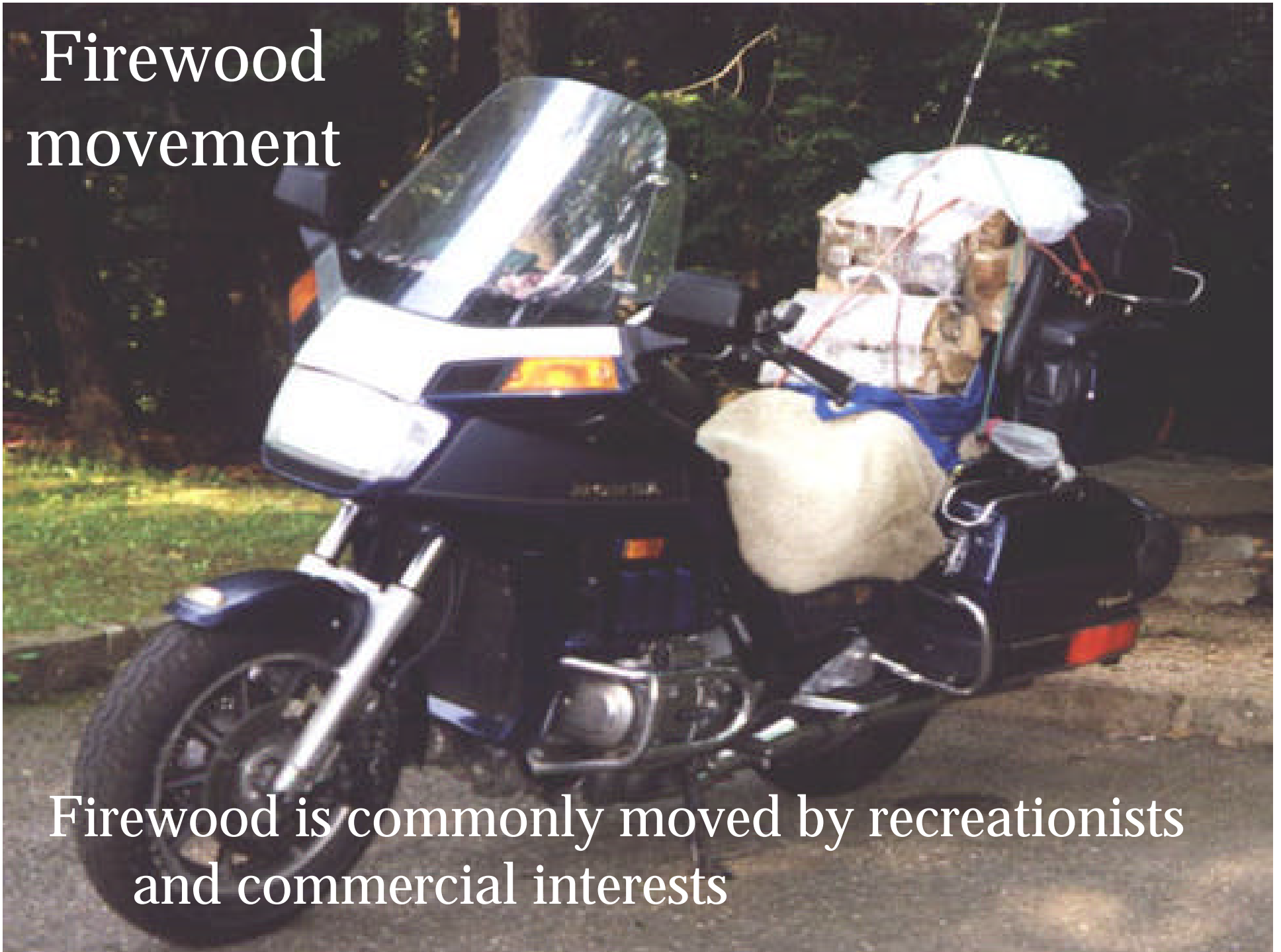
# The Firewood - Forest Health Connection

- Firewood moves around
- The movement of firewood has the potential to cause or increase insect and disease problems
- The likelihood of insects and pathogens being in firewood varies



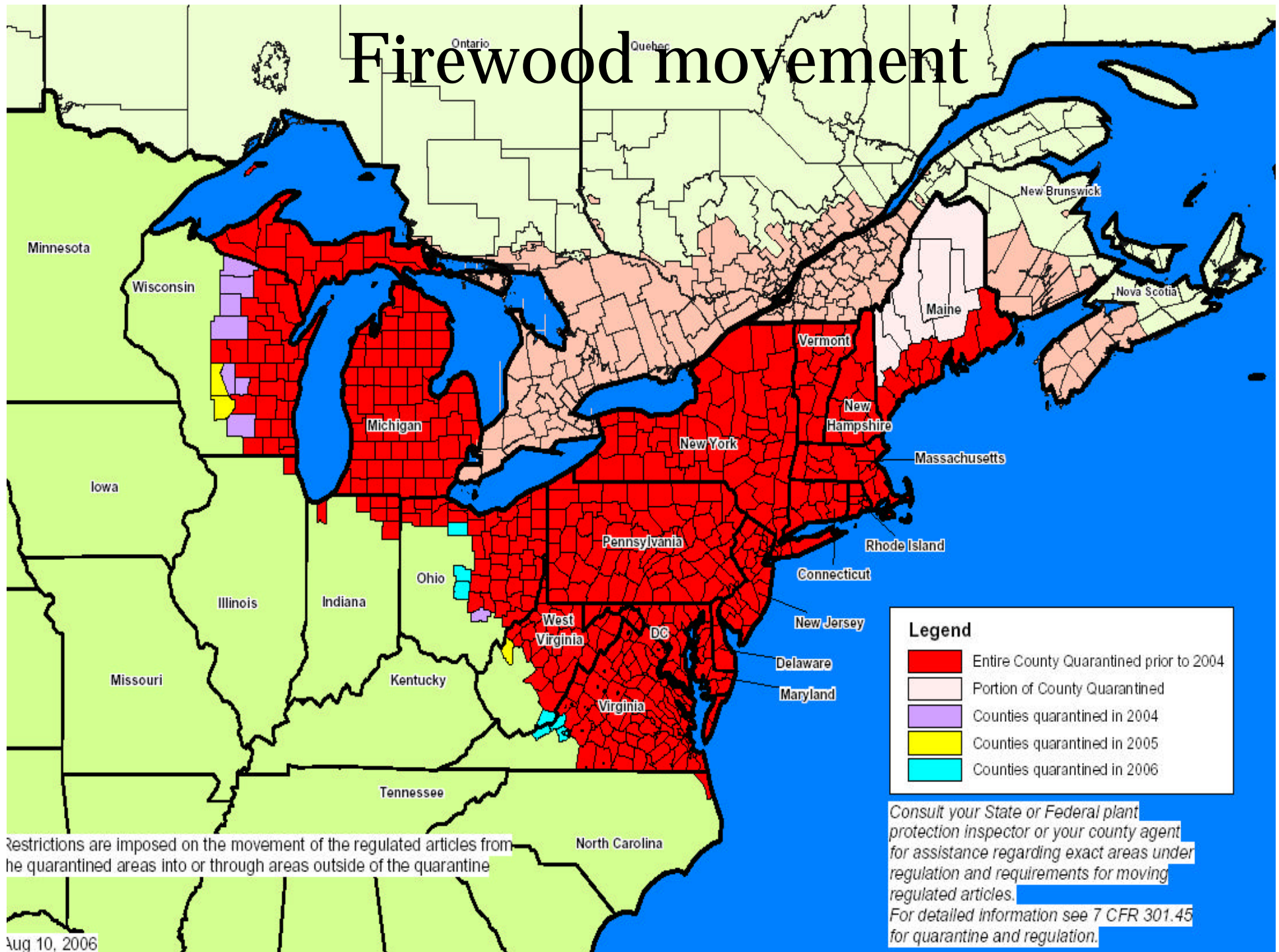
# Firewood movement

Firewood is commonly moved by recreationists  
and commercial interests





# Firewood movement



# Potential for local intensification of native pests



- Firewood can be a **local source of an insect or pathogen**
- Can attack/kill trees
- Can lead to a small local outbreak
- If the pest is native, the overall forest health impact is minor.



# Potential for introduction of exotic species



gypsy moth defoliation

- Firewood can serve as a **source of long distance transport** of a non-native insect or pathogen
- Organisms can spread and cause widespread damage, in some cases altering entire ecosystems

# Firewood can be a good habitat for insects and pathogens



Fungal conk of a wood decay fungi



Blue Stain fungi



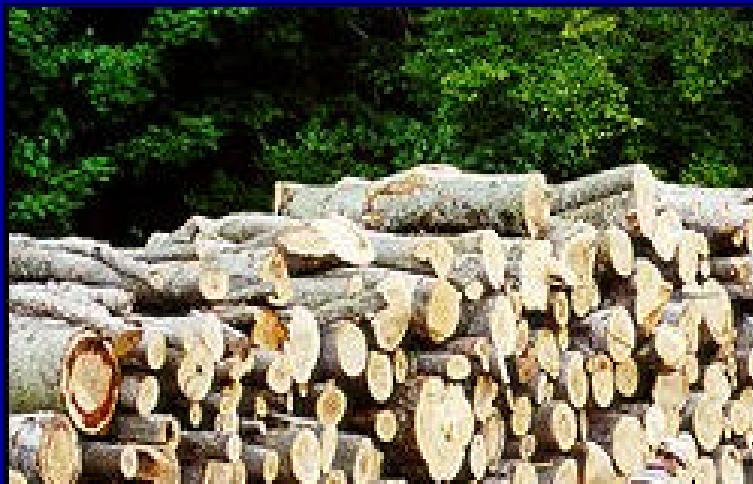
Longhorn beetle larvae



# Characteristics of "Risky firewood"

## **Risky**

- Wood moist and fresh
- Phloem moist, not discolored
- Tight or adhering bark
- Large pieces, not split



## **Less Risky**

- Dry-seasoned wood
- Bark off or loose
- Small pieces, split





# What can be **IN** a piece of firewood ???



10+  
EAB  
larvae  
in this  
small  
area



# What can be **ON** a piece of firewood ???

- Egg masses
- Pupae
- Adult insects
- Fungal spores, hyphae
- " Shelter seekers "
- Can be on dry-seasoned, split wood with no bark attached



15+ Gypsy moth egg masses –  
each with up to 1000 eggs

UGA11210

# Tree-killing **insects and pathogens** that could be moved in or on firewood



Ash infested with emerald ash borer

- Emerald ash borer
- Asian longhorned beetle
- Gypsy moth
- Sirex wood wasp
- Dutch elm disease
- Oak wilt
- Beech bark disease
- Butternut canker



# Examples of insects being detected in firewood

## Michigan surveys for emerald ash borer (EAB) in firewood piles at campgrounds.

- In 2004, EAB was detected in firewood at three new locations:
  - Merrill Lake County Park in Mecosta County
  - Rifle River State Recreation Area in Ogemaw County
  - North Higgins Lake State Park in Roscommon County
- In 2005, EAB adults caught on trap trees at
  - Rifle River State Recreation Area in Ogemaw County
  - North Higgins Lake State Park in Roscommon County



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Photos from:

<http://incolor.inebraska.com/twotaildog/>

[www.forestryimages.org](http://www.forestryimages.org)